

Patent Abstracts of Japan

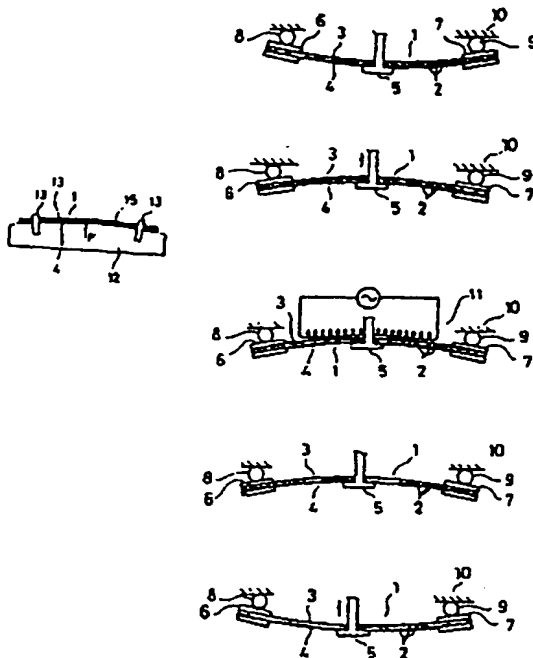
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 AB. DATE : 29-06-1990 PAT: A 2098429  
 PATENTEE : NHK SPRING CO LTD  
 PATENT DATE: 10-04-1990

INVENTOR : TAKEHANA TOSHIHIRO; others:  
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INT.CL. : B29C67/14; F16F1/18

TITLE : FIBER GLASS REINFORCED  
 PLASTIC PLATE MATERIAL AND  
 MANUFACTURE THEREOF



ABSTRACT : PURPOSE: To improve the fatigue resistance of a fiber glass reinforced plastic (FRP) plate material by simple after-treatment process by a method wherein the FRP plate material is formed in the predetermined shape and, after a load to deflect the resultant plate material is applied, the surface on tension stress side of the plate material is heated up to near or higher than the glass transition temperature of the resin and the plate material is cooled down as the load is applied to it and finally the load is removed.

CONSTITUTION: A jig 5 is set at the middle in the longitudinal direction of a FRP plate material 1, both the ends of which are respectively supported by a base frame 10 through cover plates 6 and 7 and supporting members 8 and 9. By moving the jig 5 upwards, the plate material 1 is deflected in the same direction as that in use in order to develop tensile stress on tension stress side 3 and compressive stress on compression stress side 4. Under the load is held, the tension stress side 3 is heated with a heating means 11. The heating temperature is near the glass transition temperature of the resin. After heating is stopped, the plate material 1 under the state being applied by the load is cooled down. The load due to the jig 5 is relieved. As a result, residual compressive stress is developed near the surface on the tension stress side 3 of the plate material 1. Said residual compressive stress reduces the compressive stress developed on the tension stress side 3, when the load is urged in the direction shown by the arrow F in use, resulting in improving the fatigue resistance of the FRP plate material 1.

SOURCE: (C) WPI / DERWENT

AN : 85-131721 #22!

MC : A08-R01 A12-S08

PN : JP60069161 A 850419 DW8522

PR : JP830176947 830927

PA : (TOKE ) TOSHIBA KK

DC : A32

IC : C08F2/44 ;C08G85/00 ;C08L101/00

TI : Fibre-composite resin compsn. - comprising thermosetting resin, fibrous filler and particles having harder surface than fibres

AB : J60069161 Compsn. contains (A) thermosetting resin which is liq. at the kneading temp., (B) fibrous filler having aspect ratio of 50 or more and (C) particles, the surface of which is harder than (B). Content of (B) is at least 20 vol.%.  
 - Compsn. is prepd. by dispersing at least 1 of (B) in (A) in the presence of (C) and kneading.  
 - Pref. (claimed) after kneading, resin, curing agent, catalyst, other filler and other organic liq. are added and compsn. is formed into solid mouldings by moulding, injecting, coating, etc. After kneading the compsn., compsn. is washed with solvent dissolving (A) and is moulded into a solid moulding. Resins (A) are, e.g., epoxy, (un)satd. polyester, phenol, urea, silicone resin, etc. Fillers (B) include inorganic e.g. glass, carbon, boron fibre, etc. organic, e.g., cellulose, polyamide, polyester fibre, etc. Particles (C) are, e.g., metallic, inorganic particles, etc. when (B) is organic fibre and, e.g., metallic particles which have higher Moh hardness, etc. when (B) is metallic fibre.  
 - USE/ADVANTAGE - Compsn. provides mouldings having high strength by mechanochemically bonding (A) at the surface of (B). (6pp Dwg.No.0/0)

SOURCE: (C) WPI / DERWENT

AN : 85-024748 004!

MC : A04-G03B A08-A01 A08-R01 A09-A05 A12-H

PN : SU1100288 A 840630 DW8504

PR : SU820554558 821117

PA : (ZLOB/) ZLOBINA V A

IN : ZLOBINA V A;RUMYANTSEV E I;KERBER M L

DC : A17

IC : C08K3/26 ;C08L23/12

TI : Polypropylene based polymeric compsn. - contains mixt. of calcium carbonate and amorphous silicon di:oxide, as carbonate filler

3 : SU1100288 The compsn. contains in wt. %: isotactic polypropylene, stabilised with a 1:1 mixt. of Irganox-1010 and calcium stearate, 54-77; soft or hard wood flour filler (particle size max 3000  $\mu$  m, moisture max 5%) 20-40; calcium carbonate:silicon dioxide mixt. (in the proportion of (9:0.5) to (7:2.5), 3-6. It may also contain stabilisers dyes and special components. Its properties are: breaking stress, tension 35-46 mln/sq m, bending 50-58 mln/sq m; impact strength 8.5-21.3 kJ/sq m; modulus of elasticity, bending 3560-3790 mln/sq m; prods of pyrolysis of the wood flour content formed in 20 min at 210 deg.C 0.036-0.092% of the wt of wood flour.

- USE/ADVANTAGE - For the mfr. of machine and instrument pts. Its mechanical strength is considerably higher than that of known prods. The quantity of gaseous prods. evolved on heating is over 2 times lower than with known prods. Corrosion of processing equipment is reduced, the temp. interval of the process is increased and industrial sanitation is improved. Bul.24/30.6.84 (5pp Dwg.No.0/0)